



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 5  
77 WEST JACKSON BOULEVARD  
CHICAGO, IL 60604-3590

EPA Region 5 Records Ctr.



349948

October 21, 2009

REPLY TO THE ATTENTION OF:

Mr. Jerry C. Winslow  
Principal Environmental Engineer  
Xcel Energy  
414 Nicollet Mall (Ren. Sq. 8)  
Minneapolis, Minnesota 55401

SR-6J

RE: Performance Standards for Wet Dredging Scenario  
Ashland/NSP Lakefront Superfund Site

Dear Mr. Winslow:

The U.S. Environmental Protection Agency (EPA) Region 5, in consultation with Wisconsin Department of Natural Resources (WDNR), has reviewed the recent correspondence (letters dated September 11 and 23, 2009, and the September 17<sup>th</sup> technical meeting power point presentation) from Northern States Power Company (NSPW), (d.b.a. Xcel Energy) regarding the performance standards for a wet dredge scenario.

EPA has attached a Technical Memorandum that describes a performance standards decision tree for the sediment portion of the Ashland/NSP Lakefront site. We recognize that this is only a subset of the overall performance standards, however, these are the critical performance standards that need to be implemented to assure a successful wet dredge project. Also attached is a revised Figure 1 – Summary of Toxicity Data for Sandy Sediments, to show the mortality rate relative to the 22 ppm tPAH single sample maximum. As Figure 1 clearly depicts, Xcel's proposed single sample maximum of 110 ppm tPAH, would have acute toxic effects on the benthic community. For this reason the attached Technical Memorandum and performance standards decision tree retains the requirement that no single sample will exceed 22 ppm tPAH, however, as explained in the Technical Memorandum, the post dredge sample core will include the top 6 inch layer of the generated residual layer. The 22 ppm tPAH standard, therefore, ensures the protection of the benthic community while the 6 inch core sample provides a composite of the generated residual layer to meet the performance standard.

If you have any questions, please contact me at (312) 886-1999.

Sincerely,

Scott K. Hansen  
Remedial Project Manager

cc: Jamie Dunn, WDNR  
Omprakash Patel, Weston Solutions, Inc.

**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
REGION 5**

**DATE:** October 21, 2009

**SUBJECT:** Technical Memorandum for Wet Dredge Performance Standards

## **Pilot Test Performance Standards Decision Tree**

### **Post-removal residuals management**

For use in the pilot project decision process and as a measurement of the success of the pilot study, this decision tree will use the following define terms. "Generated residuals" means sediment that is resuspended and re-deposited on the surface of a newly-dredged area, i.e., within the top six inches of the sediment. "Undisturbed residuals" means sediment that is more than six inches from the surface of the sediment.

If post-dredging confirmatory sampling detects generated residuals with tPAH concentrations exceeding the 9.5 ppm tPAH RCL on a surface weighted average over the dredged area with no single sample to exceed 22 ppm tPAH; or if confirmatory sampling of the undisturbed residuals exceed 9.5 ppm tPAH RCL; or if evidence of residual free product in the form of sheen or globules are present in the samples, then the following must occur:

- **For management of generated residuals**

- Generated residuals with a tPAH concentration greater than 22 ppm at any sampling location must be removed (typically by hydraulic re-dredging) until the 22 ppm threshold and the 9.5 ppm tPAH RCL on a surface weighted average for the dredge area are met.
- All generated residuals with a tPAH concentration between 9.5 ppm and 22 ppm must be covered with at least 6 inches of clean fish mix (sand/gravel) from an off-Site source (referred to as a "fish mix").

- **For management of undisturbed residual**

- Unless EPA and WDNR approve use of a different residuals management approach in a particular area within an OU, undisturbed residuals with a tPAH concentration exceeding the 9.5 ppm tPAH RCL must be removed (typically by re-dredging) in accordance with the sediment removal requirements specified above.

### **Sampling**

The post dredge core sample will be twelve inches into the sub-aqueous material. The samples to be analyzed will be a top 6 inch layer from the top of the generated residual layer extending the full 6 inches, and the undisturbed residual layer (6" to 12" in depth from the top of the generated residual layer). Both samples will be composited and analyzed separately.

The generated residual layer (0 – 6 inch depth homogenized sample) can not exceed the 9.5 ppm tPAH RCL on a surface weighted average over the dredged area with no single sample to exceed 22 ppm tPAH.

The undisturbed residual layer (6 – 12 inch depth homogenized sample) can not exceed 9.5 ppm tPAH.

Please see attached Flow Chart for how these performance standards will be implemented.

### **Definitions**

**tPAH** – Total Polyaromatic hydrocarbons.

**RCL** – residual contamination level.

**Generated Residuals** – contaminated sediments produced or resuspended during the dredging operation.

**Undisturbed Residuals** – sediments below the sediment dredge cut.

**Dredge Prism** – initial area of dredging

**Dredge Area** – based on location and bottom type that can be actively managed as a larger unit and can be completed (placement of fish mix) without impacting the outcome in other dredge areas.

Note: The size and locations of the dredge prism and dredge areas will be determined during design.

Site is made up of **dredge prisms** within **dredge areas**. **Dredge areas** are based on location and bottom type that can be actively managed as a larger unit and can be completed (fish mix) without impacting the outcome in other **dredge areas**. Dredge Prisms and Dredge Areas will be determined during remedial design.

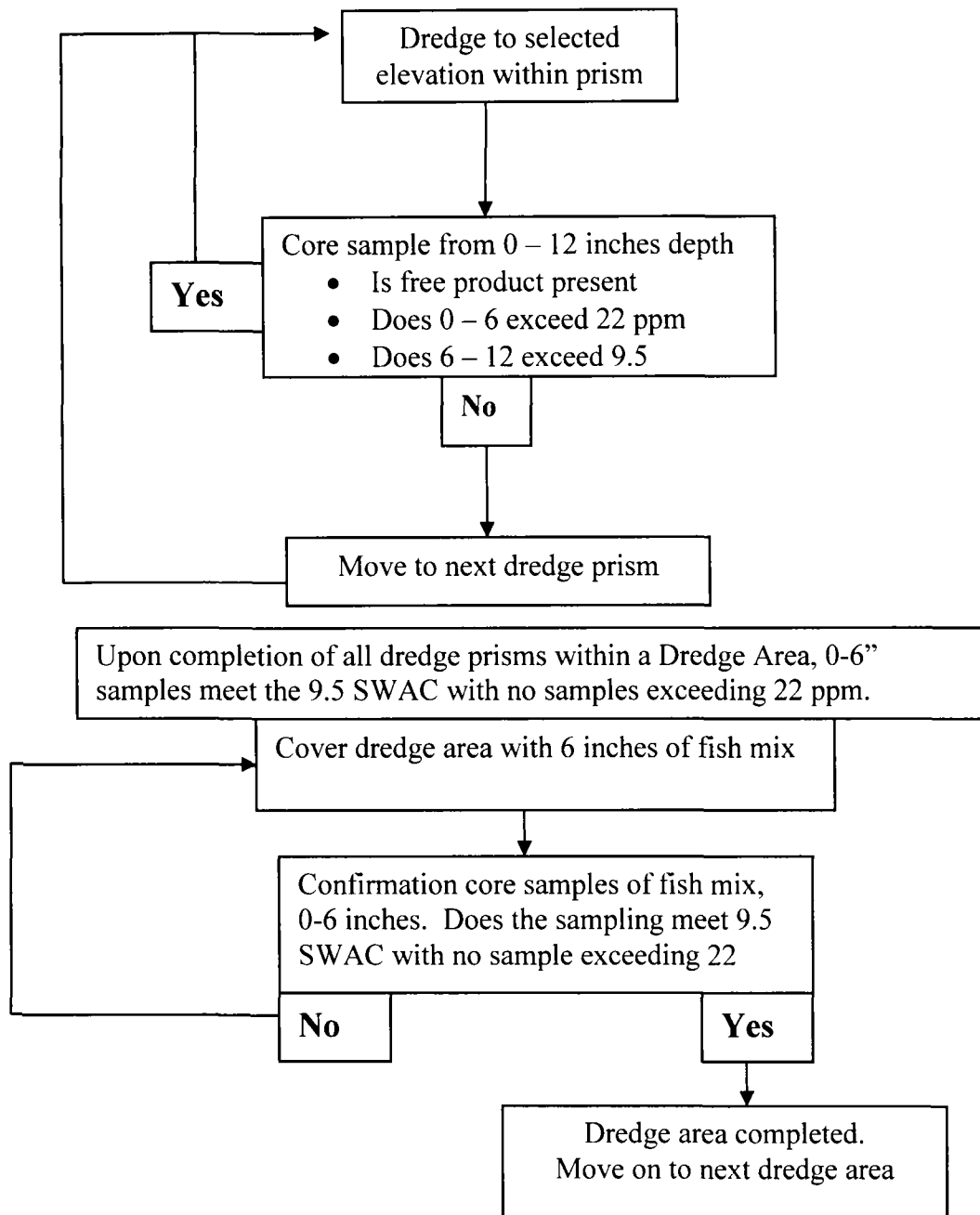


Figure 1 -- Summary of Toxicity Data for Sandy Sediments

